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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,861	07/11/2001	Kenneth L. Agee	062754.0238	3000
31625	7590	05/20/2004	EXAMINER	
BAKER BOTTS L.L.P. PATENT DEPARTMENT 98 SAN JACINTO BLVD., SUITE 1500 AUSTIN, TX 78701-4039			KERNS, KEVIN P	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,861

Applicant(s)

AGEE ET AL.

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 14 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☒ Claim(s) 1-9 and 14 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/11/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group Ia (claims 1-9) in the paper received on April 15, 2004 is acknowledged. The applicants have cancelled non-elected claim 14.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "64" in Figure 2 has been used to designate both a "second synthesis gas subsystem: steam reformer" and a "synthesis gas prep unit". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: at the beginning of the specification, the status of the parent application should be changed from "pending" to "now US Patent No. 6,277,894". On page 5, line 17, "cumbustor" should be changed to "combustor". On page 11, line 6, "rang" should be changed to "range". On page 18, line 7, "mecaptan" should be changed to "mercaptan". On page 23, line 12, "ligher" should be changed to "lighter". On page 25, line 15, "of" should be added after "number". Appropriate correction is required.

Claim Objections

4. Claim 1 is objected to because of the following informalities: in the 3rd line from the end of the claim, "gas" should be added after "synthesis". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Waycuilis (US 5,733,941).

Waycuilis discloses a hydrocarbon gas conversion system for converting a light gaseous hydrocarbon to a synthetic heavier hydrocarbon liquid, with the system having a Brayton cycle in combination with an autothermal reformer and a Fischer-Tropsch reactor, in which the hydrocarbon gas conversion system includes the following further

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interrelated structures: an autothermal reformer (combination of partial oxidation and steam reforming) that produces a synthesis gas upon mixing of a hydrocarbon feed gas (from a feedstock inlet), compressed air, and steam, to a first synthesis gas outlet of the first synthesis gas subsystem; a Brayton cycle that includes a pair of compressors and a pair of power turbines (gas turbine unit with compressors and expanders), and including a second synthesis gas subsystem having a steam reformer and a duct burner, with the second synthesis gas subsystem coupled to the expander and having a second feedstock inlet, a steam inlet, and a second synthesis gas outlet; a combustor that supplies a combustion gas to the power turbines (also having an inlet and an outlet, while serving as any of the first, second, or third synthesis gas subsystems); and a Fischer-Tropsch reactor that receives the synthesis gas from an inlet, with the Fischer-Tropsch reactor being coupled to the first, second, and third synthesis gas subsystems, resulting in production of heavier hydrocarbons to be recovered from the Fischer-Tropsch reactor product outlet (abstract; column 1, lines 7-12; column 3, lines 1-21; column 4, lines 10-49; column 5, line 19 through column 13, line 37; and Figures 1-3). It is noted that each of the first, second, and third "synthesis gas subsystems" has been interpreted as a structure through which a synthesis gas passes, inclusive of vessels, conduits etc., and has not been specifically claimed as having any particular process conducted within these "subsystems", differing from the specific "Fischer-Tropsch" synthesis subsystem.

7. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Agee et al. (US 6,011,073).

Agee et al. disclose a system and method for converting (gaseous) light hydrocarbons to (liquid or solid) heavier hydrocarbons having a synthesis gas production unit and a hydrocarbon synthesis unit, in which the hydrocarbon conversion system includes the following further interrelated structures: a turbine unit with compression and expansion sections (241,243); an autothermal/partial oxidation reformer 250 having an inlet and an outlet, and being fluidly coupled to the compression section for producing synthesis gas and combusting at least a portion of the gas; an expansion section of the turbine unit fluidly coupled to the autothermal reformer for developing thermal energy from the output of the autothermal reformer, including a duct burner for enhancing thermal energy from the gas turbine unit; a water separation unit coupled to the output from one or more of the synthesis gas production unit and/or the hydrocarbon synthesis unit; and a Fischer-Tropsch reactor (70,170,260,360) for producing heavier hydrocarbons through an outlet line, such that Figures 2-4 have the plurality of "synthesis gas subsystems" either directly or indirectly fluidly coupled to the Fischer-Tropsch reactor (abstract; column 3, lines 2-45; column 4, line 14 through column 11, line 21; and Figures 1-4). It is noted that each of the first, second, and third "synthesis gas subsystems" has been interpreted as a structure through which a synthesis gas passes, inclusive of vessels, conduits etc., and has not been specifically claimed as having any particular process conducted within these "subsystems", differing from the specific "Fischer-Tropsch" synthesis subsystem.

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Owen et al., Smith et al., Yang et al., and US 6,277,894 (parent application) references are also cited.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin P. Kerns *Kevin Kerns 5/14/04*
Examiner
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KPK
kpk
May 14, 2004